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CLAIMS

- 5 1. Transport device for sterile fluids to transport a sterile fluid from a reservoir or similar source (10) to a surgical instrument, in particular an instrument for water-jet surgery or a similar consumer (1), comprising
- 10 a piston pump or similar pump (20, 30) that transports volumetrically, with a suction cycle for drawing in the fluid and an output cycle for ejecting the fluid,
- conduit and valve devices (12; 21 to 24; 31 to 34) for connecting the pump (20, 30) to the source (10) and to the consumer (1),
- 15 drive means (40) to drive the pump (20, 30), such that
- the drive means (40) are constructed and connected to the pump (20, 30) in such a way that the suction cycle is shorter than the output cycle.
- 20 2. Transport device for sterile fluids to transport a sterile fluid from a reservoir or similar source (10) to a surgical instrument, in particular an instrument for water-jet surgery or a similar consumer (1), comprising
- 25 a piston pump or similar pump (20, 30) that transports volumetrically, with a suction cycle for drawing in the fluid and an output cycle for ejecting the fluid,
- conduit and valve devices (12; 21 to 24; 31 to 34) for connecting the pump (20, 30) to the source (10) and to the consumer (1),

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drive means (40) to drive the pump (20, 30), such that

the pump (20, 30, 50) comprises at least three pump chambers and the drive means (40) is constructed in such a way that the suction and output cycles of the pump chambers overlap one another.

3. Transport device according to Claim 1, characterized in that the pump (20, 30) comprises at least one first and one second piston/cylinder unit or similar first and second pump chambers (25, 26; 35, 36), which can be controlled in a push-pull manner in such a way that the suction cycle in the first pump chamber (25, 26) is shorter than the output cycle in the second pump chamber (35, 36) and conversely.

4. Transport device according to one of the preceding claims, characterized in that the drive means (40) is constructed in such a way that the output cycles overlap.

5. Transport device according to one of the claims 3 or 4, characterized in that the drive means (40) is constructed in such a way that the fluid is supplied to the consumer (1) with a substantially constant pressure.

6. Transport device according to one of the preceding claims, characterized in that the pump (20, 30, 50) is releasably connected to the drive means (40).

7. Transport device according to one of the preceding claims, in particular according to Claim 6, characterized in that the pump (20, 30, 50) and/or the conduits (12; 21, 22; 31, 32; 51, 52), preferably together with the valve means (23, 24; 33, 34; 53, 54), is constructed as a disposable unit.

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8. Transport device according to one of the preceding claims,
in particular according to Claim 2,
characterized in that the drive means (40) for each pump
chamber (25, 26; 35, 36; 55, 56) comprises a separate,
5 controllable drive motor (41, 42, 45).
9. Transport device according to one of the claims 1 to 7,
characterized in that the drive means (40) comprises a
single controllable drive motor (64) as well as gear
mechanisms (60) with a gear-train input connected to the
10 drive motor (64) and a gear-train output for each pump
chamber (25, 26; 35, 36; 55, 56).